T-9650 / T-3000

THERMAL TRANSFER / DIRECT THERMAL BAR CODE PRINTER

USER'S MANUAL

CONTENTS

1. PRODUCT INTRODUCTION 1

2. GETTING STARTED 2

2.1 Unpacking and Inspection 2
2.2 Equipment Checklist 2
2.3 Printer Parts 3
2.4 External Label Roll Mount (Option) 6
2.5 Buttons and Indicators 7

3. SET UP 8

3.1 Setting Up the Printer 8
3.2 Loading Label and Tag Stock 8
3.3 Ribbon Loading Instructions 11
3.4 Install External Label Roll Mount (Option) 14
3.5 Self Test 15
3.6 Dump Mode 17

4. USING PRINTER 18

4.1 Power-on Utilities 18
4.1.1 Self Test Utility 18
4.1.2 Gap Sensor Calibration Utility 18
4.1.3 Printer Initialization 19
4.2 Troubleshooting Guide 20

1. PRODUCT INTRODUCTION

Thank you very much for purchasing the T-9650/T-3000 bar code printer. The attractive desktop printer delivers superior performance at an economical price. Both powerful and easy-to-use, This printer is your best choice among desktop direct thermal and thermal transfer label printers.

This printer offers both thermal transfer and direct thermal printing, 32-bit RISC multi-tasking processor, print speed up to 4.0 inches per second features. It can accept a wide range of media, including continuous, die-cut, and fan-fold labels or tags for both thermal transfer and direct thermal printing. All of the most frequently used bar code formats are available. Fonts and bar codes can be printed in any one of four directions. And it provides a choice of eight different sizes of alphanumeric fonts. By using font multiplication, an even greater range of sizes is possible. Smooth fonts can be downloaded from the software. In addition, It is capable of independently executing BASIC programming functions, including arithmetic, logical operation, loop, flow-control and file management, among others. This programming capability provides the greatest efficiency in label printing. The status of printer and error messages may either be printed out or viewed on a monitor by means of the connection.

2. GETTING STARTED

2.1 Unpacking and Inspection

The printer has been specially packaged to withstand damage in the shipping process. However, for fear that unexpected damage might occur, upon receiving the bar code printer, carefully inspect the package and the device. In case of evident damage, contact the carrier directly to specify the nature and extent of the damage. Please retain the packaging materials in case you need to reship the printer.

2.2 Equipment Checklist

- One bar code printer unit
- One Windows labeling software/Driver CD disk
- One quick start guide
- One external auto switching power supply
- One power cord
- One label spindle
- Two fixing tabs
- Two ribbon spindles
- One paper core for ribbon rewind spindle

If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.

2.3 Printer Parts

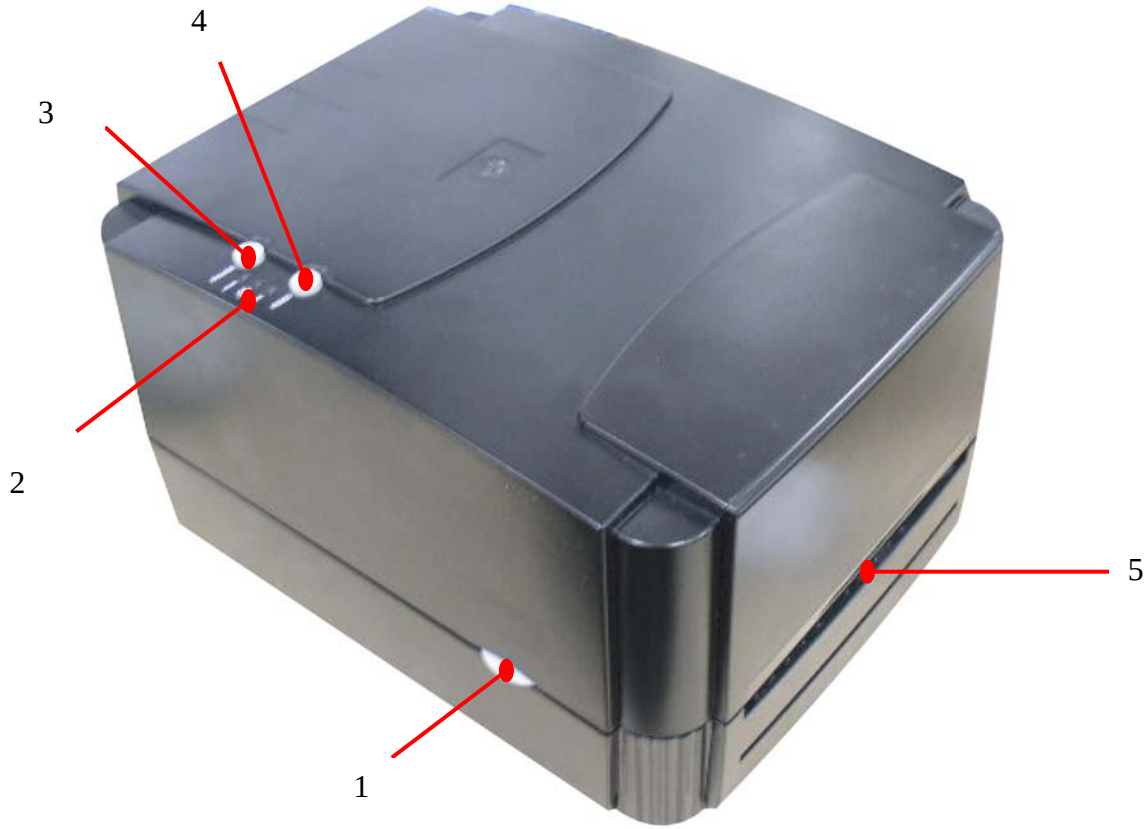


Figure 1. Top front view

1. Cover Release Button
2. PWR., ON-LINE and ERR. Indicators
3. PAUSE Button
4. FEED Button
5. Label Dispense Opening

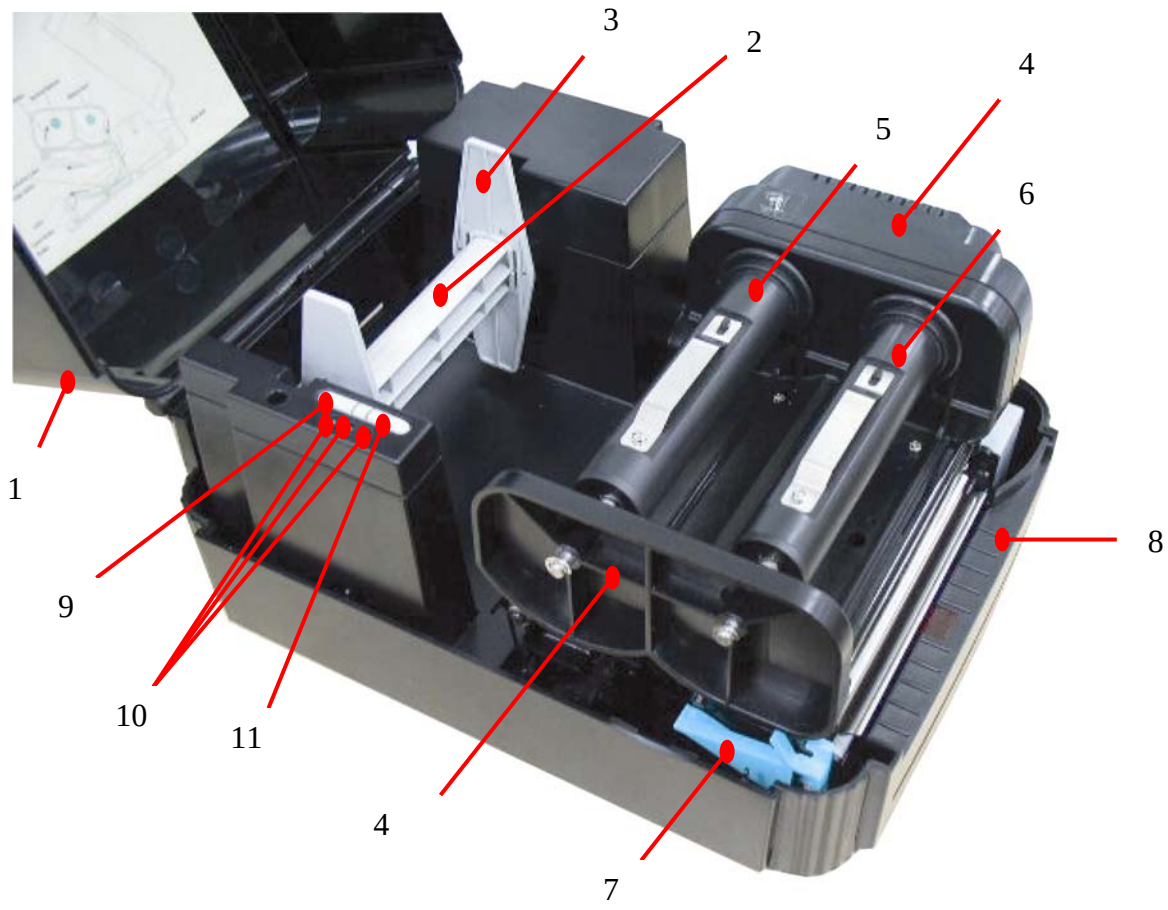
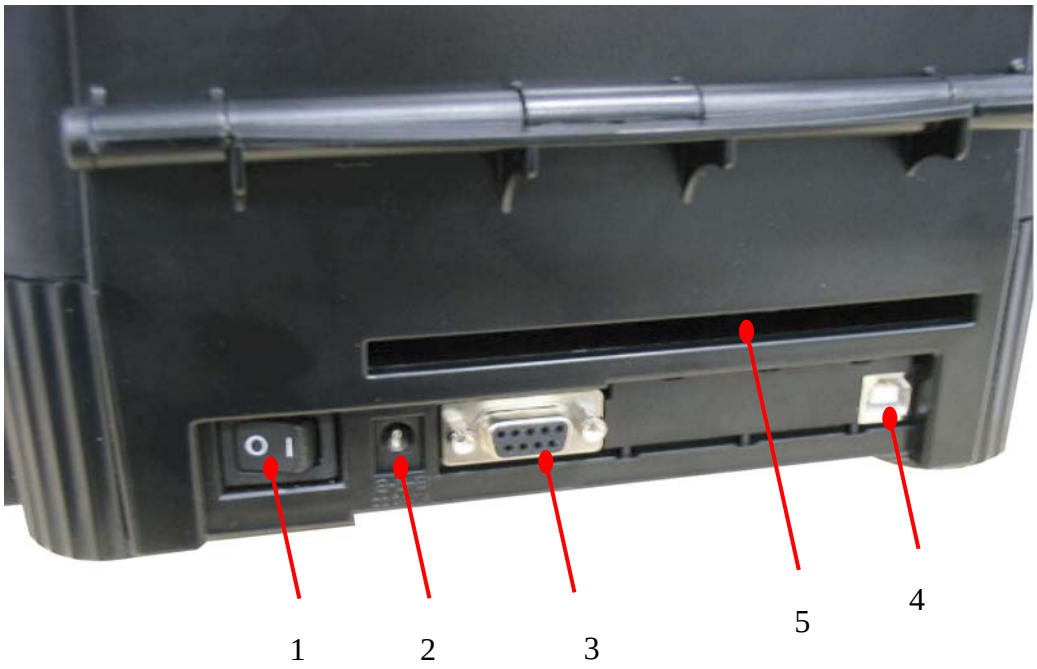


Figure 2. Interior view

1. Printer Cover (in open position)
2. Label Supply Roll Spindle
3. Fixing Tabs
4. Ribbon Mechanism
5. Ribbon Supply Spindle
6. Ribbon Rewind Spindle
7. Printer Carriage Release Lever
8. Detachable Front Panel
9. PAUSE Button
10. PWR., ON-LINE, ERR. Indicators
11. FEED Button



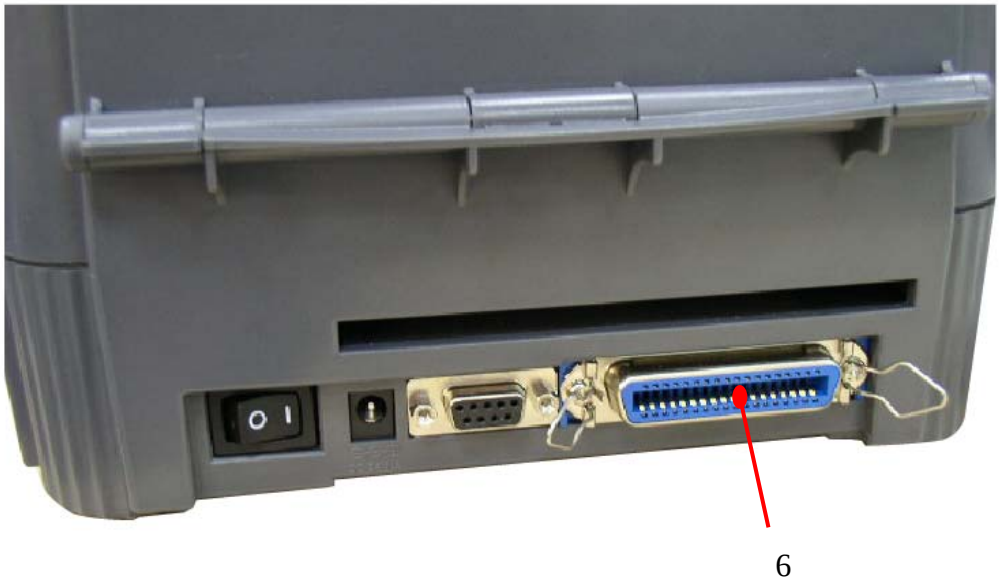


Figure 3. Rear view

1. Power On/Off Switch
2. Power Supply DC Jacket
3. RS-232C Interface Connector
4. USB Interface Connector
5. Label Insert Opening (For use with external media)
6. Centronics Interface Connector **(Factory option)**

2.4 External Label Roll Mount (Option)

Figure 4. External label roll mount

2.5 Buttons and Indicators

PWR. (POWER) Indicator

The green **PWR.** indicator illuminates when the **POWER** switch is turned on.

ON-LINE Indicator

The green **ON-LINE** indicator illuminates when the printer is ready to print. When **PAUSE** button is pressed, the **ON-LINE** indicator flashes.

ERR. Indicator (Error/Paper Empty)

The red **ERR.** indicator illuminates in the event of a printer error, such as memory error, syntax error, and so forth. For a full list of error messages, please refer to section 4.2, Troubleshooting Guides.

PAUSE Button

The **PAUSE** button allows the user to stop a print job and then continue the printing with a second depression of the button. By pressing the **PAUSE** button: (1) the printer stops printing after the printing label, (2) the **PAUSE** LED flashes, and (3) the printer will hold all data in memory. This allows for trouble-free replacement of label stock and thermal transfer ribbon. A second depression of the **PAUSE** button will restart the printer.

Note: If the PAUSE button is held down for more than 3 seconds, the printer will be reset and all data of the previous printing job will be lost.

FEED Button

Press the **FEED** button to feed the label to the beginning of the next label.

3. SET UP

3.1 Setting Up the Printer

1. Place the printer on a flat, secure surface.
2. Make sure the **POWER** switch is off.
3. Connect the printer to the computer mainframe with the RS-232C or USB cable.
4. Plug the power cord into the power jacket at the rear of the printer, and then plug the power cord into a properly grounded receptable.

3.2 Loading Label and Tag Stock

1. Open the printer cover
2. Disengage the printer carriage by pulling the printer carriage release lever on the left side of the platen.
3. Slide the label supply roll spindle through the core of a label roll and attach the fixing tabs onto the spindle.
4. Place the label roll into the label roll mount. Feed the label under the carriage and over the platen.
5. Adjust the label guide to fit the width of the media.
6. Engage the printer carriage.
7. Wind the label roll until it becomes adequately taut.
8. Close the printer cover and press the **FEED** button three or four times until the green **ON-LINE** indicator illuminates.
9. When the printer is out of ribbon or media, the **ON-LINE** LED will not illuminate and the **ERR.** LED will flash. Reload the ribbon or media without turning off the printer power. Press the **FEED** button three or four times until the **ON-LINE** LED illuminates. The printing job will be resumed without data loss.

Note: Please install label, ribbon and then close the print head mechanism before turning on power. Printer will detect if ribbon is installed while turning on power to determine thermal transfer or direct thermal printing model.

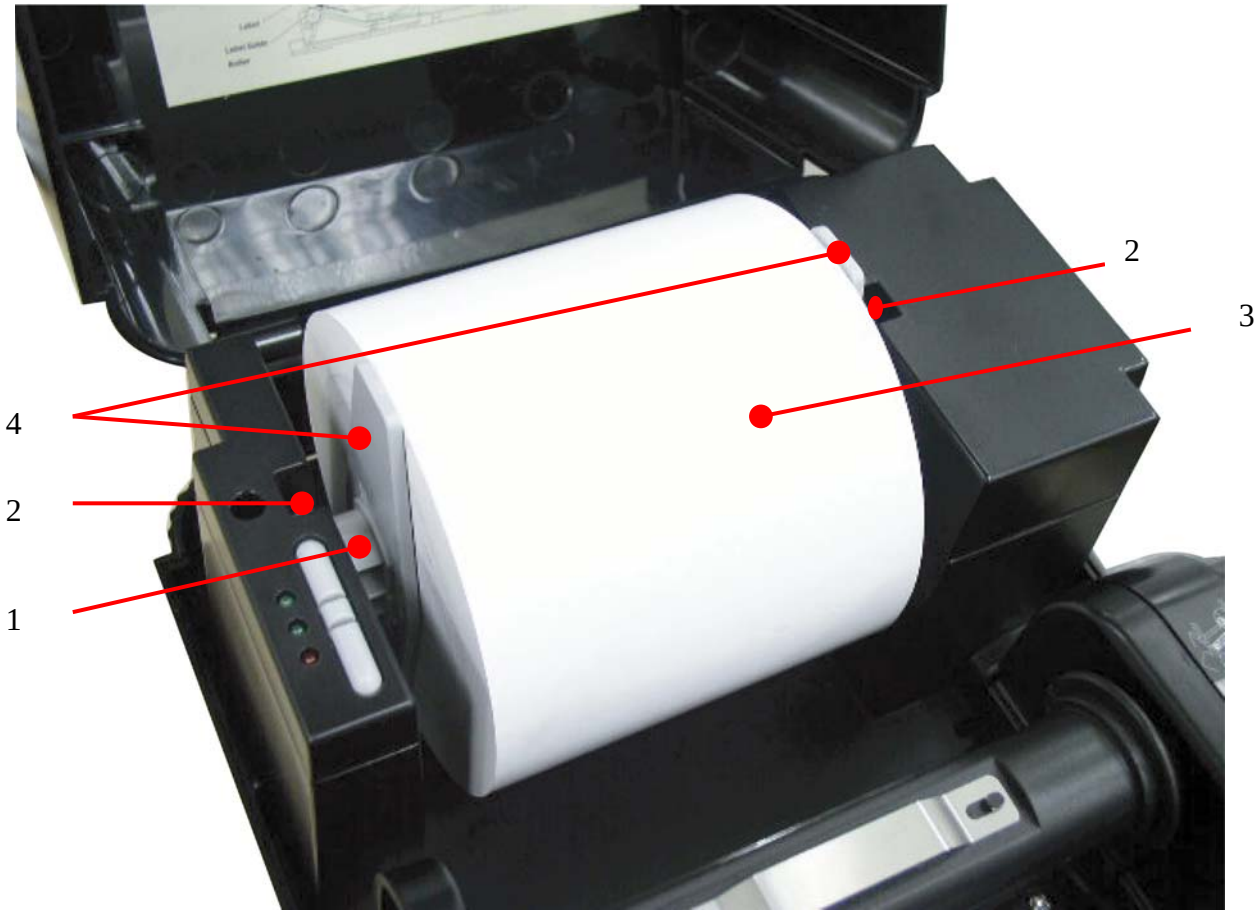


Figure 5. Inserting label supply roll into label roll mount

1. Label Supply Roll Spindle
2. Label Roll Mount
3. Label Roll
4. Fixing Tabs

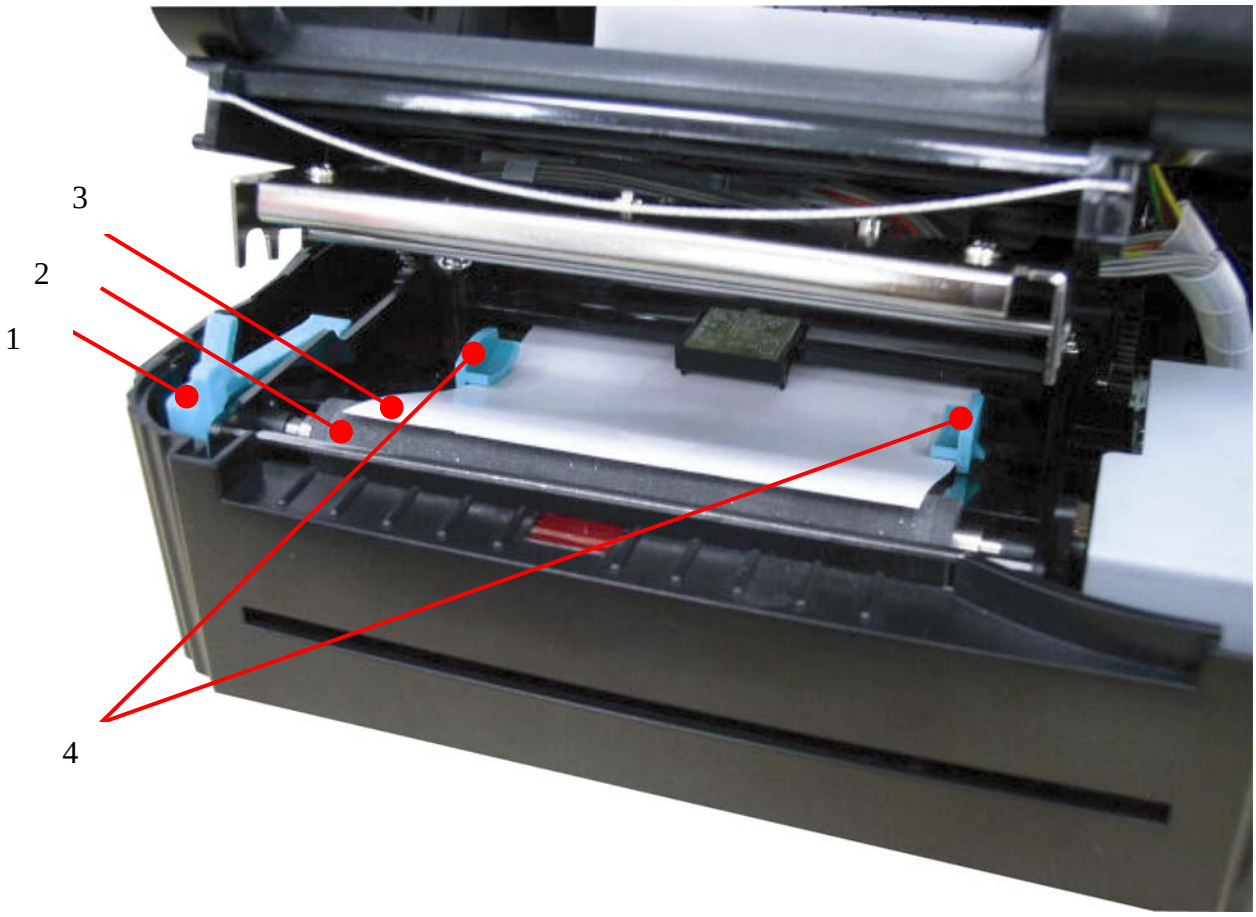


Figure 6. Feed labels through adjustable label guide

1. Printer Carriage Release Lever
2. Platen
3. Label Media
4. Adjustable Label Guide

3.3 Ribbon Loading Instructions

1. Place an empty paper core on the ribbon rewind spindle.
2. Install the ribbon on the ribbon supply spindle.
3. Disengage the printer carriage.
4. Pull the ribbon leader to the front from beneath the printer carriage. Attach the ribbon leader to the ribbon rewind paper core.
5. Rotate the ribbon rewind roller until the ribbon leader is thoroughly, firmly encompassed by the black section of the ribbon.
6. Engage the printer carriage.
7. Close the printer cover and press the **FEED** button until the green **ON-LINE** LED illuminates.

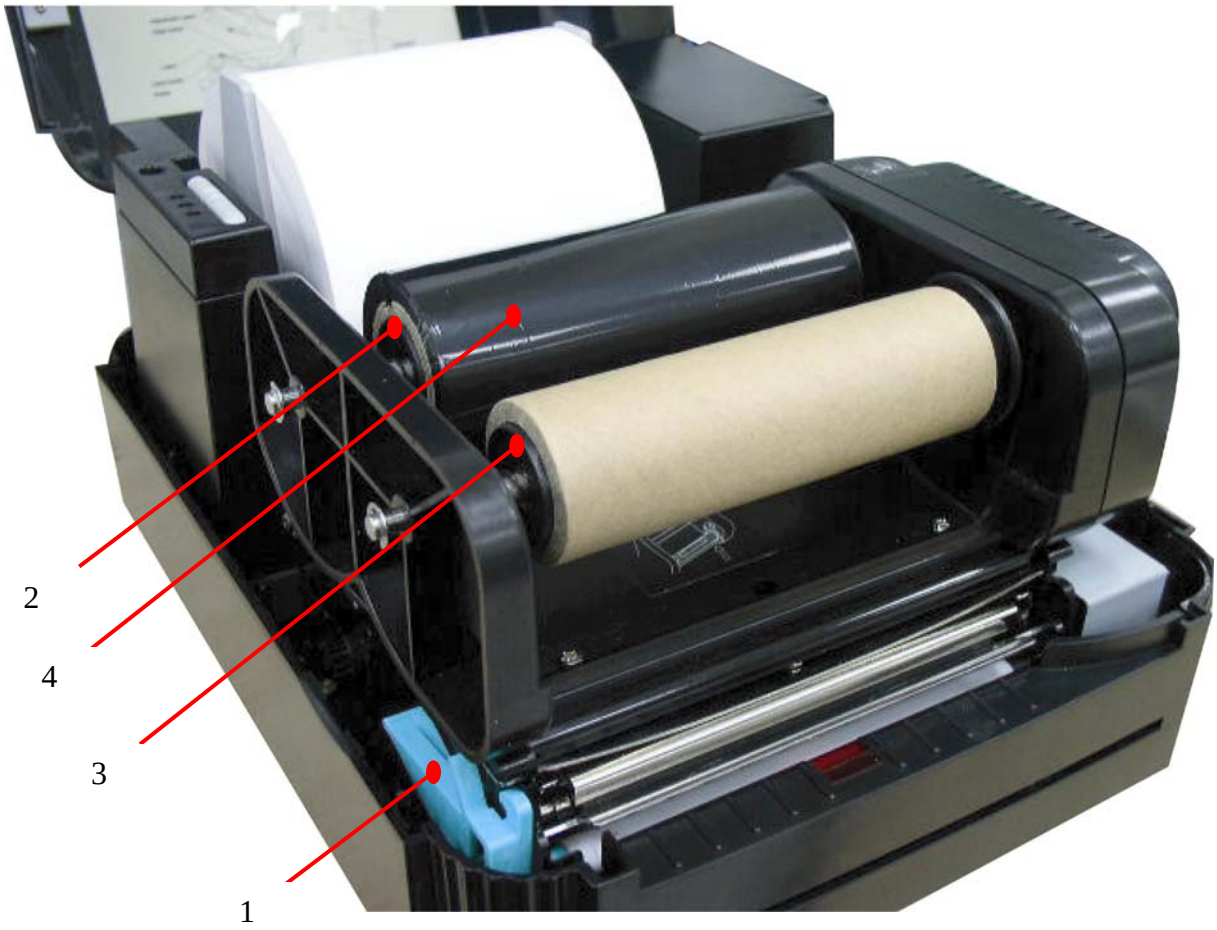


Figure 9. Placement of ribbon supply roll

1. Printer Carriage Release Lever
2. Ribbon Supply Spindle
3. Ribbon Rewind Spindle
4. Thermal Transfer Ribbon

Figure 10. Installation of label stock and thermal transfer ribbon

3.4 Install External Label Roll Mount (Option)

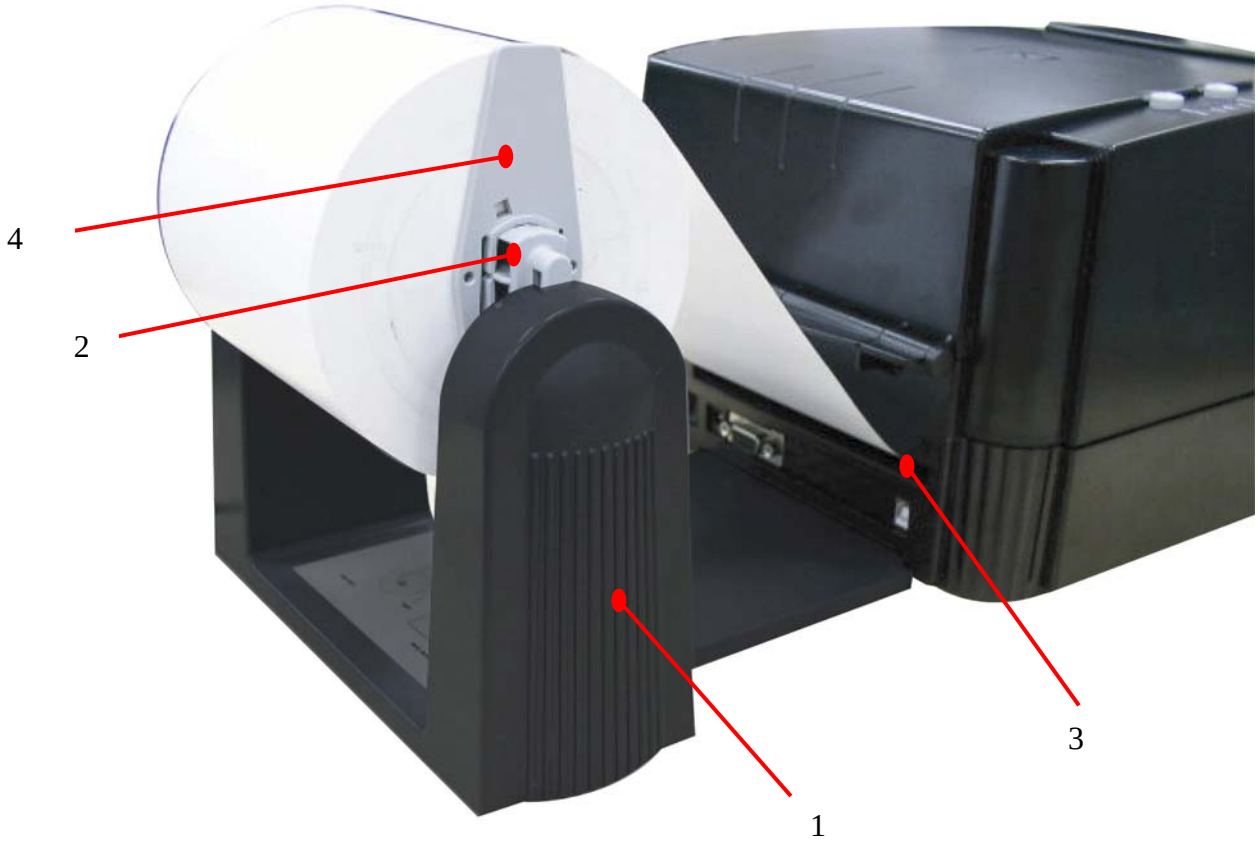


Figure 11. Installation of external label roll mount

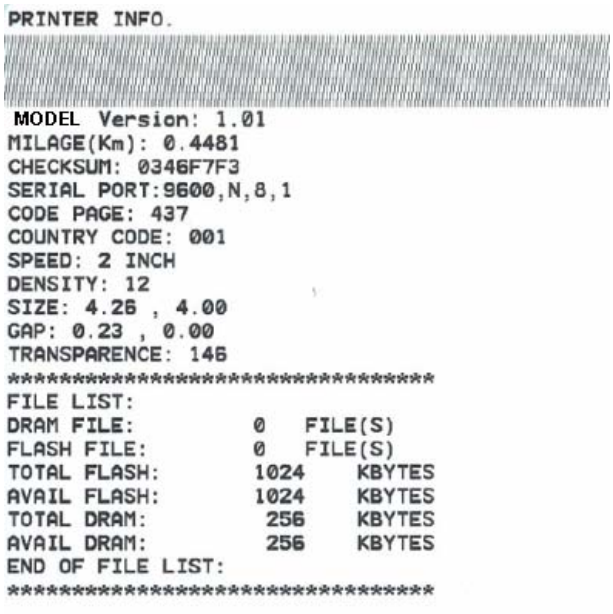
1. External Label Roll Mount
2. Label Supply Roll Spindle
3. External Label Feed Opening
4. Fixing Tabs

3.5 Self Test

To initiate the self test mode, depresss the **FEED** button while turning on the printer power. The printer will calibrate the label length. If the label gap is not detected within 7", the printer stops feeding labels and the media is treated as continuous paper. In self test, a check pattern is used to check the performance of the thermal print head. Following the check pattern, the printer prints internal settings as listed below:

1. Printer model and firmware version
2. Mileage
3. Firmware checksum
4. Serial port setting
5. Code page setting
6. Country code setting
7. Print speed setting
8. Print density setting
9. Label size setting
10. Gap (Bline) width and offset setting
11. Backing paper transparence
12. File list

When the self test is completed, the printer enters the dump mode. Please turn the printer's power off and then on to resume normal printing.



Note:

The physical flash memory and DRAM on board is 2MB respectively. Due to system firmware will occupy 1MB, so total available flash memory space for downloads is 1024 K bytes.

For DRAM, system and image buffer will occupy 1792 K bytes, so total available DRAM for downloads will be 256 K bytes.

3.6 Dump Mode

After the self test, the printer enters the dump mode. In this mode, any characters sent from the host computer will be printed in two columns, as shown. The characters received will be shown in the first column, and their corresponding hexadecimal values, in the second. This is often helpful to users for the verification of programming commands or debugging of printer programs. Reset the printer by turning the **POWER** switch off and on.

```
********************************
NOW IN DUMP MODE

DOWNLOAD "DE  44 4F 57 4E 4C 4F 41 44 20 22 44 45
MO2.BAS"  SI  4D 4F 32 2E 42 41 53 22 0D 0A 53 49
ZE 4.00,5.00  5A 45 20 34 2E 30 30 2C 35 2E 30 30
  CLS  SPEED  0D 0A 43 4C 53 0D 0A 53 50 45 45 44
 1.5  DENSIT  20 31 2E 35 0D 0A 44 45 4E 53 49 54
Y 10  DIRECT  59 20 31 30 0D 0A 44 49 52 45 43 54
ION 0  SET C  49 4F 4E 20 30 0D 0A 53 45 54 20 43
UTTER OFF  S  55 54 54 45 52 20 4F 46 46 0D 0A 53
ET DEBUG LAB  45 54 20 44 45 42 55 47 20 4C 41 42
EL  REFERENC  45 4C 0D 0A 52 45 46 45 52 45 4E 43
E 0,0  A=100  45 20 30 2C 30 0D 0A 41 3D 31 30 30
0  Y=100  FO  30 0D 0A 59 3D 31 30 30 0D 0A 46 4F
R I=1 TO 3    52 20 49 3D 31 20 54 4F 20 33 0D 0A
BARCODE 100,  42 41 52 43 4F 44 45 20 31 30 30 2C
Y,"39",96,1,  59 2C 22 33 39 22 2C 39 36 2C 31 2C
0,2,4,STR$(A  30 2C 32 2C 34 2C 53 54 52 24 28 41
)  A=A+1  Y=  29 0D 0A 41 3D 41 2B 31 0D 0A 59 3D
Y+150  NEXT   59 2B 31 35 30 0D 0A 4E 45 58 54 0D
 PRINT 1  EO  0A 50 52 49 4E 54 20 31 0D 0A 45 4F
P  DEMO2      50 0D 0A 44 45 4D 4F 32 0D 0A
```

4. USING PRINTER

4.1 Power-on Utilities

There are three power-on utilities to set up and test hardware. These utilities are activated by pressing the **FEED** or **PAUSE** button and turning on the printer power simultaneously. The utilities are listed as below:

1. Self-test
2. Gap sensor calibration
3. Printer initialization

4.1.1 Self Test Utility

Install the label first. Press the **FEED** button and then turn on the printer power. Do not release the **FEED** button until the printer feeds labels. The printer performs the following items:

1. Calibrate label pitch
2. Print out thermal print head check pattern
3. Print the internal settings
3. Enter dump mode

Regarding the self-test and dump mode, please refer to section 3.5 "Self Test" and section 3.6 "Dump Mode" for more information.

4.1.2 Gap Sensor Calibration Utility

This utility is used to calibrate the sensitivity of gap sensor. Users may have to calibrate the gap sensor for two reasons:

1. The media is being changed to a new type.
2. Initialize the printer.

Note: The ERR. LED may flash if gap sensor is not calibrated properly.

Please follow the steps below to calibrate gap sensor:

1. Turn off the printer power and install blank labels (without any logo or character) on printer.
2. Hold down the **PAUSE** button then turn on printer power.
3. Release **PAUSE** button when the printer feeds labels. **Do not turn off printer power** until the printer stops and two green LEDs light on.

Note: Black mark sensor has fixed sensitivity. It is no need to calibrate the black mark sensor

4.1.3 Printer Initialization

Printer initialization sets printer parameters to default values. And it will not clear downloaded files resident in flash memory.

Parameter	Default Value
MILEAGE	Automatic
CHECK SUM	Automatic
SERIAL PORT	9600,N,8,1
CODE PAGE	437 (8 bit)
COUNTRY CODE	001
SPEED	2.0”/sec
DENSITY	08
SIZE	4.26", 2.50"
GAP(BLINE)	0.12, 0
TRANSPARANCE	Will be reset. Need to re-calibrate the gap sensor

Please follow the steps below to initialize the printer:

1. Turn off the printer power.
2. Hold down the **PAUSE** and **FEED** buttons and turn on the printer power.
3. Do not release the buttons until the three LEDs flash in turn.

Note 1: Printing method (thermal transfer or thermal direct printing) will be set automatically at the activation of printer power.

Note 2: When printer initialization is done, sensor sensitivity is reset to default. Sensor calibration is required before printing labels.

Note 3: Download files will not be deleted after printer initialization. For more information about deleting files, please refer to TSPL2 programming manual KILL command.

4.2 Troubleshooting Guide

The following guide lists some of the most common problems that may be encountered when operating the bar code printer. If the printer still does not function after all suggested solutions have been invoked, please contact the Customer Service Department of your purchased reseller or distributor for assistance

Problem	Solution
Ribbon does not advance or rewind	The media and ribbon must be installed and close print head mechanism prior to turning on printer power.
Poor print quality	Clean the thermal print head. Adjust the print density setting. Ribbon and media are not compatible. Media thickness is over spec.
Power indicator on printer does not illuminate	Check the power cord, see whether it is properly connected. Check the if LED on the power supply is illuminated. If it is not lit on, then the power supply is damaged.
ON-LINE indicator is off, **ERR.** indicator is on	Out of paper or out of ribbon Calibrate the sensitivity of gap sensor. Rewind ribbon paper core is not installed.
Continuous feeding when printing labels	Calibrate the gap sensor.